

REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claims 1, 2, 7 and 8 have been cancelled, while claim 3 has been made a proper independent claim and includes the limitations of cancelled claim 1. In addition, claims 4 and 5 have been made dependent on claim 3, while claims 6 and 9 have been amended to include the limitations of claim 2 and have been made dependent on claim 3.

The Examiner has rejected claims 1-7 and 9-14 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,067,125 to May. The Examiner has further rejected claims 1, 2 and 8 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,037,986 to Zhang et al. In addition, the Examiner has rejected claims 15 and 16 under 35 U.S.C. 103(a) as being unpatentable over May in view of U.S. Patent 5,844,627 to May et al.

In view of the above changes, Applicants believe that the Examiner's rejection based on Zhang et al. has been overcome.

The May patent discloses a structure and method for film grain noise reduction in which an input video signal is applied to a spatial filter 102 and a temporal filter 101, the outputs therefrom being applied to a weighted average circuit 104 which provides a weighted average of the signals from the spatial and temporal filters.

The Examiner has indicated that May discloses:

"determining a spatial spread (Equation (5) in column 5) of a set of original pixel values ($P_t M_i$) (Fig. 2, numerals 201a-201e and represented as " p_i " in equations (3) in column four and (6) in column five.) in at least one image (fig. 2, num. 200) of the image sequence (V_1) (Fig. 1, num. 105);"

As explained in Applicants' last Response, a "spread" is a measure based on differences between pixel values, hence a "spatial spread" is a measure based on the differences between pixel values in the same image. While May discloses "a set of original pixel values ($P_t M_i$) in at least one image", there is no disclosure of "determining a spatial spread of a set of original pixel values". Rather, May discloses computing a scaled mean value μ_s (equation 3 col. 4), computing a scaled sum of squares ss of the pixel values (equation 4, col. 5), and computing a scaled variance σ^2 which, as shown in equation 5, col. 5, is based on a difference between the scaled sum of squares ss and the square of the scaled means value μ_s .

The Examiner has further indicated that May discloses:

"determining statistics (Fig. 1, num. 102 determines "statistics" in col. 4, line 39 or "variance σ^2 " in col. 5, line 19) from said spatial spread in said at least one image of the image sequence (v_1);"

Applicants submit that the Examiner is mistaken. In particular, while May mentions the term "statistics", this is, as noted in col. 4, lines 39-42, "computes local image statistics for

each filtered pixel. In this embodiment, the local statistics include the mean and variances of the pixels of the 5-pixel kernel." Since as noted above, May neither discloses nor suggests determining the "spatial spread", then May can neither disclose or suggest determining statistics from the spatial spread.


The May et al. patent discloses a structure and method for reducing spatial noise, in which a means for calculating a variance is disclosed. However, Applicants submit that claims 15 and 16 both claim "computing means for determining a spatial spread of a set of original pixel values (P_t , M_i) in at least one image of the image sequence (V_l)".

Further, as indicated above, "variance" as disclosed in May neither shows nor suggests the "spatial spread" as claimed in the subject invention.

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicants believe that this application, containing claims 3-6 and 9-16, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

by 
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